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Clarion (Malaysia) Sdn. Bhd.
Phase 3, Free Trade Zone One, 11900 Bayan Lepas, Penang, Malaysia
Tel: (60) 4-6439-106, Fax (60) 4-6439-108
Clarion Co. Ltd.
Export Division : 22-3, Shibuya 2 - chome, Shibuyaku, Tokyo, 150-8335 Japan Tel: 03-3400-1121

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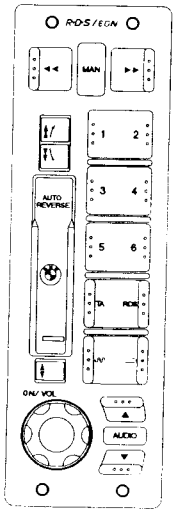
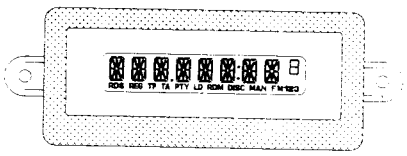
Service Manual



(Model:PU-1680A/PU1681A)



(Model:EU-1151A)

LW/MW/FM Cassette

Model **PU-1680A**

PU-1681A

Model **EU-1151A**

■ SPECIFICATIONS

Radio section

Model: PU-1680A

Tuning system:	PLL frequency synthesizer system
Receiving range:	FM 87.7 to 107.9MHz (0.2 MHz steps)
	AM 530 to 1710kHz (10 kHz steps)

Model: PU-1681A

Tuning system:	PLL synthesizer tuner
Receiving range:	FM 87.5 to 108MHz (0.1 MHz steps for seek)
	(0.05 MHz steps for manual tuning)
	LW 153 to 279 kHz (3 kHz steps)
	MW 531 to 1,602 kHz (9kHz steps)

Tape section

Reproducting system:	4 track, 2 channel stereo cassette
Wow and flutter:	Less than 0.25% (W.R.M.S)
Separation:	More than 35dB
Crosstalk:	More than 40dB
S/N ratio:	More than 45dB
FF/REW time:	Less than 120sec. (c-60)

General

Power supply voltage:	DC 13.5V (10.8 to 15.6V allowable)
	Negative ground
Current consumption:	Less than 10A
Speaker impedance:	4Ω
Dimensions (mm):	178 (W) x 100 (H) x 152 (M)mm
Weight:	1.5kg

※ Specification and design are subject to change without notice for further improvement.

■ NOTE

1. We cannot supply PWB with component parts in principle. When a circuit on PWB has failure, please repair it by component parts base. Parts which are not mentioned in service manual are not supplied.

■ COMPONENTS

PU1680A/PU1681A/EU1181A

Main unit	————	1
Mounting bracket	300-7742-20	1
Part's bag	————	
Removal key	331-2479-20	2
Poly Bag	253-0380-50	1

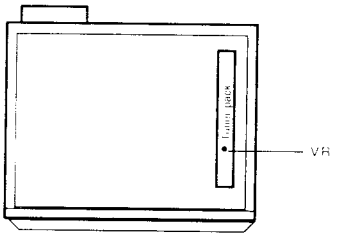
■ To engineers in charge of repair or inspection of our products.

Before repair or inspection,make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

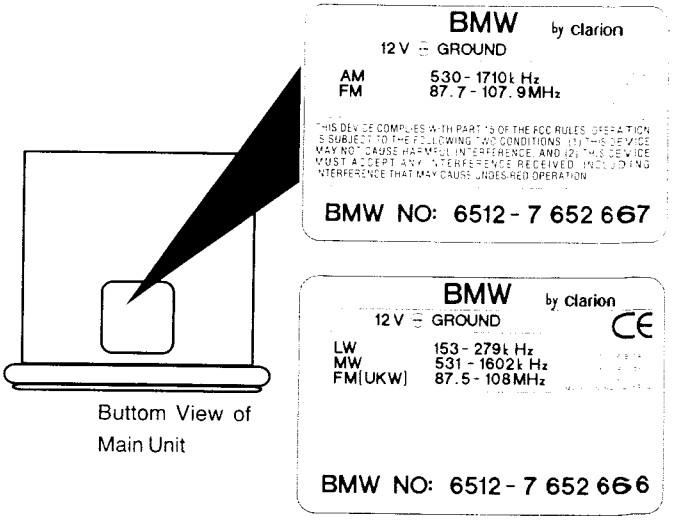
1. Use specified parts.
   The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.
   The use of unspecified parts shall be regarded as re-modeling for which we shall not be liable.The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of un-specified parts being used.
2. Place the parts and wiring back in their original positions after replacement or re-wiring.
   For proper circuit construction, use of insulation tubes, bonding, gaps to PWB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.
   If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.
3. Check for safety after repair.
   Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary problems around the repaired spots.
   If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
4. Caution in removal and making wiring connection to the parts for the automobile.
   Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur.
   If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
5. Cautions regarding chips.
   Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.
6. Cautions in handling flexible PWB.
   Before working with a soldering iron, make sure that the iron tip temperature is around 270°C. Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.
7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

■ ADJUSTMENT

Item	Procedure	Instrument
FM-S-meter	1. Press the RDS button and M6 button to RDS test mode. 2. Input at 98.1MHz/30dBμ (1KHz,30% Mod.) signal. 3. Adjust VR on top of tuner pack so that an output level at the TP (S-Meter) on main PWB is 3.0±0.1V.	SSG Millivoltmeter



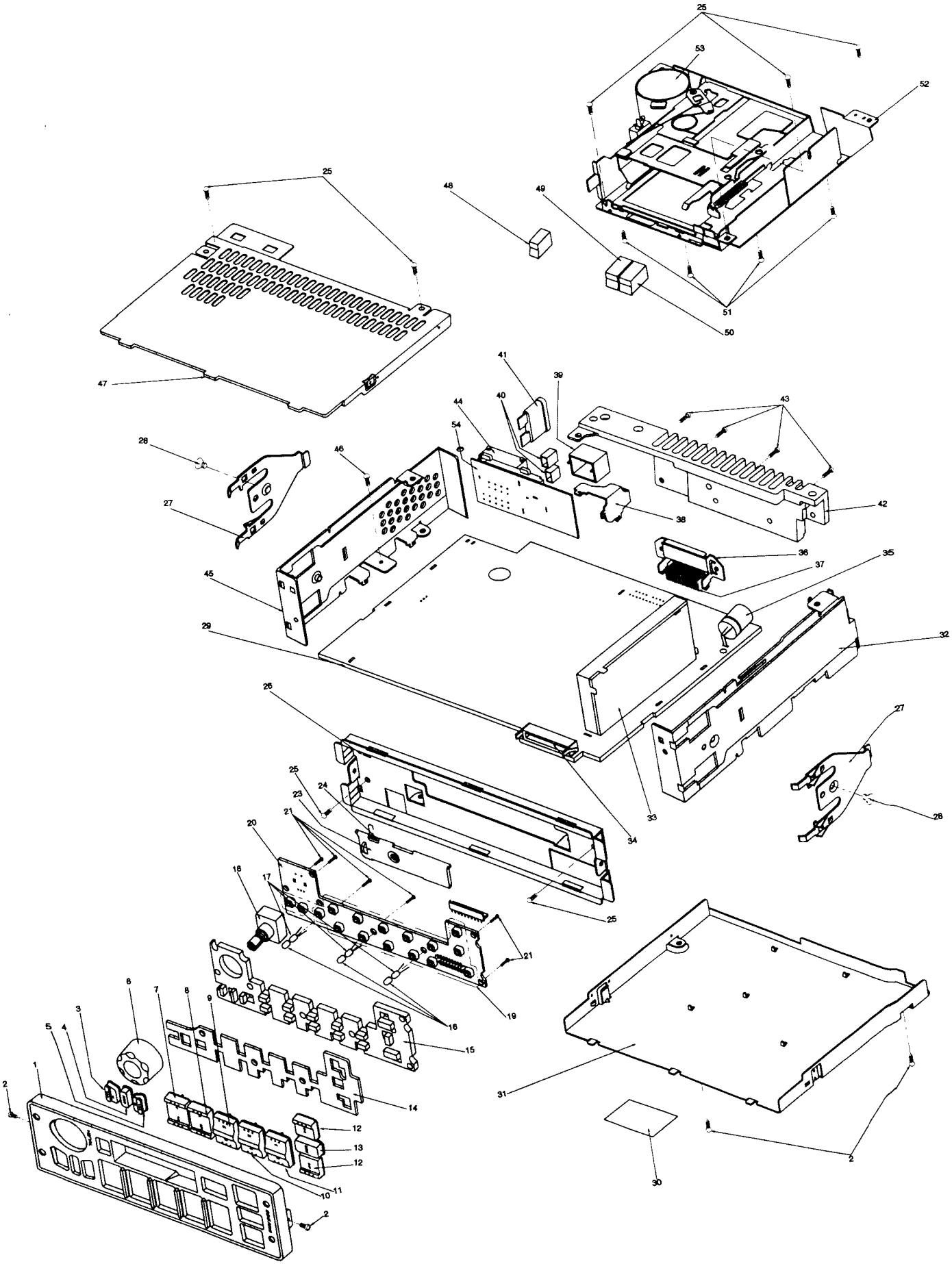
Top side of main unit


BMW by clarion
12 V ⎓ GROUND
AM 530 - 1710 kHz
FM 87.7 - 107.9MHz
BMW NO: 6512 - 7 652 667
BMW by clarion
12 V ⎓ GROUND
LW 153 - 279 kHz
MW 531 - 1602 kHz
FM(UKW) 87.5 - 108MHz
BMW NO: 6512 - 7 652 666

Buttom View of Main Unit

■ EXPLODED VIEW • PART LIST

Main Section

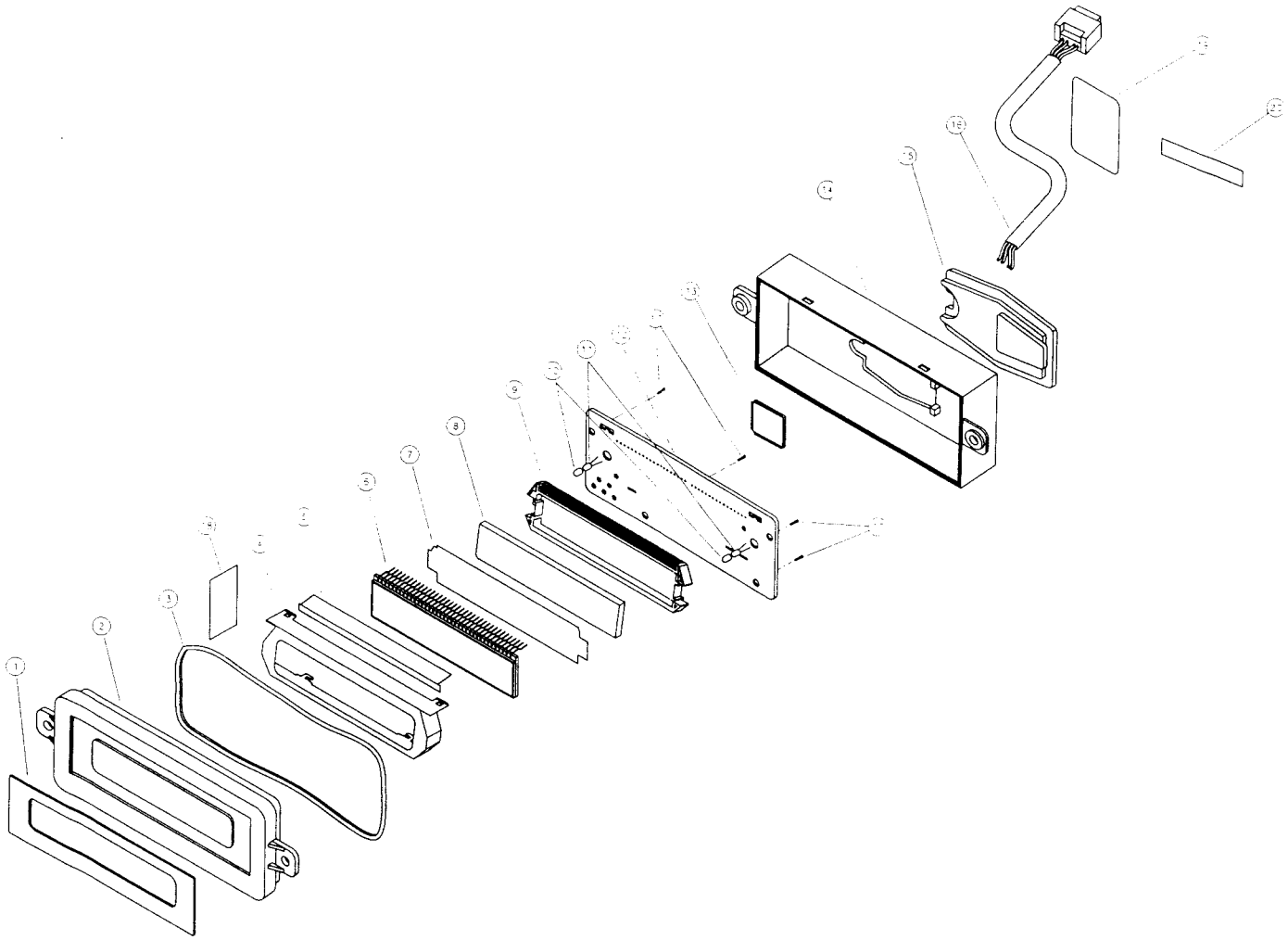


NO.	PART NO.	DESCRIPTION	Q'TY
1	370-5863-00	ESCUTCHEON	1
2	716-1494-00	MACHINE SCREW	4
3	382-5696-00	BUTTON (AUDIO DOWN)	1
4	382-5692-00	BUTTON (AUDIO)	1
5	382-5695-00	BUTTON (AUDIO UP)	1
6	380-5469-00	KNOB	1
7	382-5694-00	BUTTON (RADIO/TAPE)	1
8	382-5693-00	BUTTON (TA/RDS)	1
9	382-5689-00	BUTTON (5/6)	1
10	382-5688-00	BUTTON (3/4)	1
11	382-5687-00	BUTTON (1/2)	1
12	382-5690-00	BUTTON (MAN-SEEK)	2
13	382-5691-00	BUTTON (MAN)	1
14	345-8397-00	SPONGE	1
15	335-6235-00	ILLUMI PLATE	1
16	345-3814-85	LAMP CAP	3
17	017-0410-00	PILOT LAMP	3
18	016-0010-12	VARIABLE-R	1
19	013-6002-50	SWITCH	16
20	039-1629-00	SW PWB	1
21	716-0778-00	WAVE SCREW	6
22	074-1151-18	OUTLET SOCKET (PWB)	1
23	320-0526-73	DUSTPROOF COVER	1
24	750-2626-01	SPRING	1
25	731-3006-80	TAP TIGHT	7
26	309-0744-00	FRONT PLATE	1
27	750-2512-01	SPRING	2
28	714-3006-41	MACHINE SCREW	2

NO.	PART NO.	DESCRIPTION	Q'TY
29	039-1628-00	MAIN PWB	1
30	286-9477-01	SETPLATE	1
30A	286-9478-00	SETPLATE	1
31	305-0289-00	LOWER CASE	1
32	305-0291-00	SIDE PLATE (RIGHT)	1
33	80-2080-C1	TUNER	1
34	076-0540-18	PLUG	1
35	092-0612-11	ANTENNA	1
36	331-2574-00	IC HOLDER	1
37	051-2014-00	POWER IC	1
38	331-2577-00	ISO HOLDER	1
39	331-2009-00	SHIELD CASE	1
40	074-1265-00	OUTLET SOCKET	2
41	060-0057-56	AUTO FUSE	1
42	313-1791-00	HEAT SINK	1
43	714-2610-81	MACHINE SCREW	4
44	074-1264-00	OUTLET SOCKET	1
45	305-0290-00	SIDE PLATE (LEFT)	1
46	714-2606-81	MACHINE SCREW	1
47	304-0464-00	UPPER CASE	1
48	382-1082-02	BUTTON (PRO)	1
49	382-1292-00	BUTTON (REW)	1
50	382-1291-00	BUTTON (FF)	1
51	714-3004-81	MACHINE SCREW	4
52	331-2813-00	MECH. -HOLDER	1
53	930-0650-81	TAPE MECH.	1
54	039-1630-00	ISO PWB	1

■ EXPLODED VIEW • PARTS LIST

Display Box EU-1151A



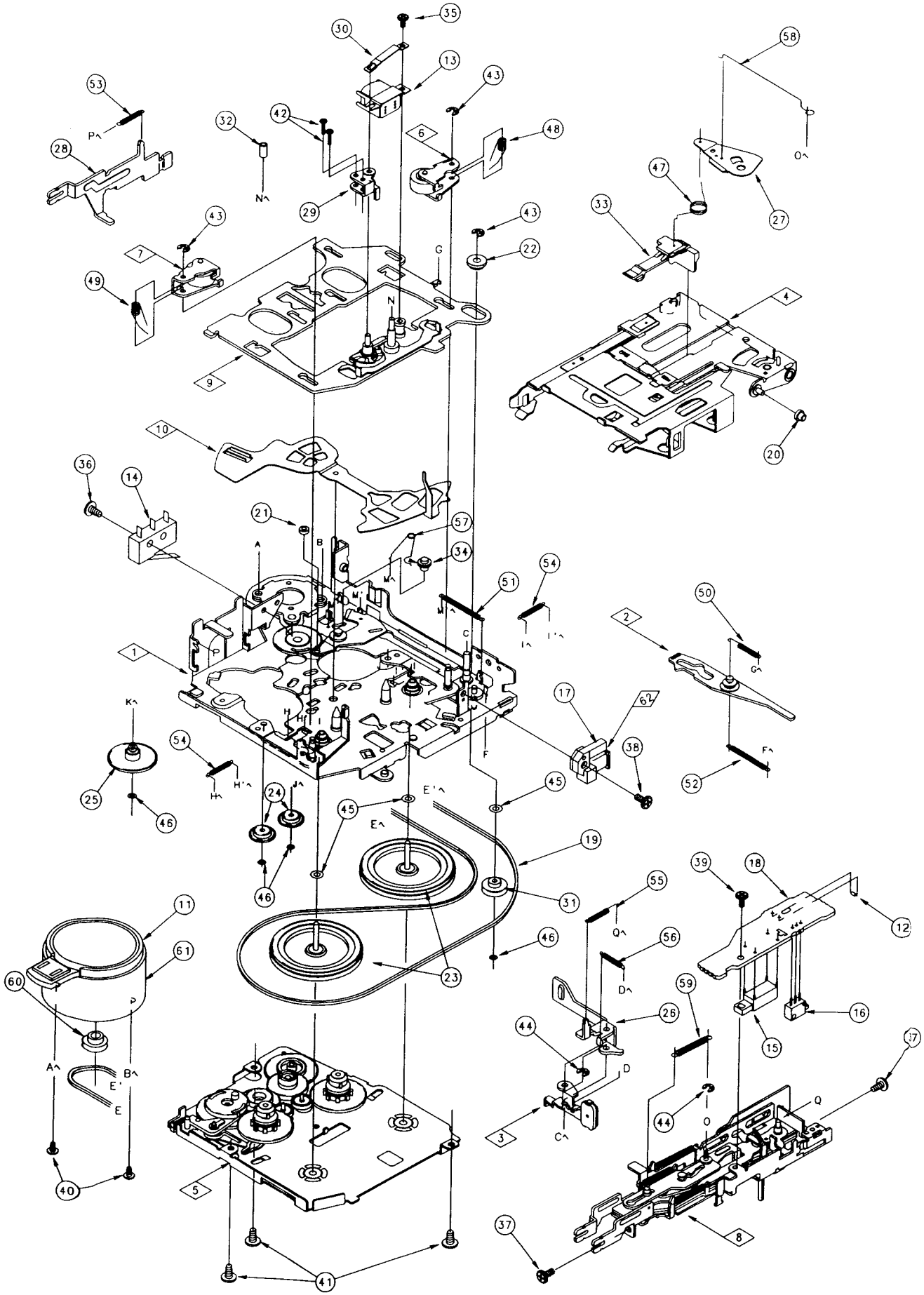
NO.	PART NO.	DESCRIPTION	Q'TY
1	353-0518-00	SHADE	1
2	335-6232-00	UPPER COVER	1
3	345-8396-00	RUBBER PART	1
4	331-2593-00	LCD HOLDER	1
5	335-5994-00	SHEILD SHEET	1
6	379-1155-40	LCD	1
7	335-5912-01	FILTER	1
8	335-5910-00	ILLUMI PLATE	1
9	335-5909-01	LCD HOLDER	1
10	345-3814-85	LAMP CAP	2

NO.	PART NO.	DESCRIPTION	Q'TY
11	017-0410-00	PILOT LAMP	2
12	039-1631-00	PWB	1
13	051-6022-00	LCD DRIVER	1
14	335-6233-00	REAR CASE	1
15	335-6234-00	LEAD CLAMP	1
16	854-8616-60	EXT. LEAD	1
17	716-0778-00	SPECIAL SCREW	4
18	346-0131-00	LEATHER SHEET	1
19	286-9479-00	SETPLATE	1
20	291-0091-00	STICKER	1

■ EXPLODED VIEW • PARTS LIST

Tape mechanism section 930-0650-81

Drive unit section



NO.	PART NO.	DESCRIPTION	Q'TY
1	960-3834-04	DECK-P-ASSY R	1
2	960-3837-04	SHIFT-P-ASSY	1
3	960-3839-03	PLUNGER-L-ASSY	1
4	960-3950-02	PACK GUIDE-ASSY	1
5	960-4205-04	BOTTOM SUB-A-C	1
6	960-4230-00	ROLLER-ASSY-F	1
7	960-4231-00	ROLLER-ASSY-R	1
8	960-3924-13	FRAME SUB-A-RS	1
9	960-4222-00	HEAD-P-ASSY R	1
10	960-3881-05	CH PLATE-ASSY	1
11	020-0383-00	DC-MOTOR	1
12	001-0330-00	D I ODE	1
13	011-0307-50	HEAD	1
14	013-2690-02	SWITCH	1
15	013-3807-00	SWITCH	1
16	013-3808-00	SWITCH	1
17	630-1479-02	CORE	1
18	099-8019-01	PWB	1
19	602-0103-10	BELT	1
20	610-0226-01	ROLLER	1
21	610-0293-01	POWER ROLLER	1
22	610-0294-01	HEAD-P-G-ROLLER	1
23	611-0077-01	FLYWHEEL	2
24	613-0095-01	FF IDLER GEAR	2
25	613-0314-00	GEAR A	1
26	630-1930-02	OFF ARM	1
27	630-1932-02	SWING ARM	1
28	630-1934-02	PROGRAM LEVER	1
29	630-1956-02	ADJUST LINK	1
30	630-1962-02	HEAD SPRING	1
31	604-0035-01	TENTION PULLEY	1
32	631-0545-01	EJECT ROLLER	1

NO.	PART NO.	DESCRIPTION	Q'TY
33	631-0552-03	PACK STOPPER	1
34	632-1886-02	LOCK PIN	1
35	716-0816-00	STEEL SCREW	1
36	714-2308-81	MACHINE SCREW	1
37	714-2604-81	MACHINE SCREW	2
38	714-2606-11	MACHINE SCREW	1
39	716-0790-02	PWB SCREW	1
40	716-0715-15	STEEL SCREW	2
41	716-0717-10	SPECIAL SCREW	3
42	716-0718-21	SPECIAL SCREW	2
43	743-1500-10	E-LING	3
44	743-2000-10	E-LING	2
45	746-0624-00	SPECIAL WASHER	3
46	746-0761-00	SPECIAL WASHER	4
47	750-2361-01	SPRING	1
48	750-2929-00	ROLLER SPEING F	1
49	750-2928-00	ROLLER SPEING R	1
50	750-2537-02	OVER-P-SPRING	1
51	750-2538-01	POWER-P-SPRING	1
52	750-2539-01	SHIFT-P-SPRING	1
53	750-2541-02	PROGRAM SPRING	1
54	750-2545-00	FF GEAR SPRING	2
55	750-2650-00	OFF ARM SP B	1
56	750-2555-02	OFF ARM SPRING	1
57	750-2568-00	LOCK SPRING	1
58	750-2569-03	EJECT ROD RS	1
59	750-2554-03	CLICK-P-SPRING	1
60	603-0114-00	MOTOR PULLEY	1
61	630-2028-00	SHIELD CASE	1
62	960-3392-02	COIL-ASSY	1

■ EXPLANATION OF IC

■ μPD784215 052-3917-00
Radio, Tape Controller

Outward Form

100 pins, plastic QFP

Terminal Description

Pin No	Symbol	I/O	Function
1	LCD-DO	O	Serial data output Display IC
2	LCD-CLK	O	Clock pulse output to Display IC
3	LCD-CE	O	Chip enable signal output to Display IC
4	RDS DATA	I	RDS serial data input
5	NOISE CLEAR	O	Noise clear signal output
6	RDS MUTE	O	"H" RDS mute ON
7	FM-SD	I	"H"=FM station detected
8	AM-SD	I	"H"=AM staion detected
9	VDD	—	Positive supply voltage
10	X2	—	Crystal connection (12MHz)
11	X1	I	Crystal connection (12MHz)
12	VSS	—	Ground
13	XT 2	—	Not in use
14	XT 1	I	Not in use
15	RESET	I	Reset signal input. "L"=Reset
16	N.C	I	Not in use
17	N.C	I	Not in use
18	RDS-CLK	I	RDS clock pulse input
19	KI-0	I	Key scan signal input. Ref. Table 1
20	B/U-DET	I	Backup intterrupt signal input. "H"=Backup ON
21	ACC-DET	I	ACC power supply ON signal input. "L"=ACC ON
22	PACK-IN	I	Cassette pack insertion detection terminal. "L"=Tape in
23	AVDD	—	Positive supply voltage
24	AVREF0	—	Reference voltage input for A/D converter
25	NOISE-IN1	I	Input terminal of A/D converter to detect the noise of FM
26	NOISE-IN2	I	Not in use
27	S-M	I	Input terminal of internal A/D converter to detect the voltage of FM S meter
28	N.C	I	Not in use
29	PLL-DI	I	PLL serial data input
30	REMCON-1	I	Input terminal of internal A/D converter to detect the remote control switch
31	REMCON-2	I	Input terminal of internal A/D converter to detect the remote control switch
32	MUTE-DET	I	Input terminal of A/D converter to detect the voltage of Backup line
33	AVSS	—	Ground
34	INTERCOM INT	I	Input terminal for Intercom interruption. "H"=Interrupt ON
35	N.C	I	Not in use

Pin No	Symbol	I/O	Function
36	AVREF	—	Connect to VDD
37	PLL-DO	O	Serial data output to PLL IC
38	PLL-CLK	O	Clock pulse output to PLL IC
39	N.C	O	Not in use
40	PLL-CE	O	Chip enable signal output to PLL IC
41	SOFT-MUTE	O	Output terminal for swithing FM SOFT MUTE constant
42	A-MUTE	O	Mute signal output to Audio power amplifier IC. "L"=Mute ON
43	L-MUTE	O	Mute signal output to line-out. "L"=mute ON
44	N.C	I	Not in use
45	V-CL	O	Clock pulse output to electrical volume IC
46	V-DO	O	Serial data output to electrical volume IC
47	V-CE	O	Chip enable output to electrical volume IC
48	VOL-MUTE	O	Mute signal output to electrical volume IC
49	5V-REM	O	5V power supply circuit conrol signal output. "L"=ON
50	14V-REM	O	14V power supply control signal output. "H"=ON
51	FWD/REV	I	"H"=Reverse. "L"=Forward
52	N.C	I	Not in use
53	N.C	I	Not in use
54	MOTOR-ON	O	"H"=Main motor ON
55	N.C	I	Not in use
56	N.C	I	Not in use
57	N.C	I	Not in use
58	N.C	I	Not in use
59	N.C	I	Not in use
60	N.C	I	Not in use
61	N.C	I	Not in use
62	N.C	I	Not in use
63	N.C	I	Not in use
64	AREA-B	I	Area setting input. Ref . Table 2
65	AREA-A	I	Area setting input. Ref . Table 2
66	N.C	I	Not in use
67	N.C	I	Not in use
68	N.C	I	Not in use
69	N.C	I	Not in use
70	N.C	I	Not in use
71	N.C	I	Not in use
72	VSS	—	Ground
73	N.C	I	Not in use
74	N.C	I	Not in use
75	ST	I	Not in use
76	N.C	I	Not in use
77	N.C	I	Not in use
78	N.C	I	Not in use

Pin No	Symbol	I/O	Function
79	N.C	I	Not in use
80	N.C	I	Not in use
81	VDD	—	Positive supply voltage
82	N.C	I	Not in use
83	N.C	I	Not in use
84	N.C	I	Not in use
85	N.C	I	Not in use
86	N.C	I	Not in use
87	N.C	I	Not in use
88	KI-1	I	Key scan signal input. Ref. Table 1
89	KI-2	I	Key scan signal input. Ref. Table 1
90	KI-3	I	Key scan signal input. Ref. Table 1

Pin No	Symbol	I/O	Function
91	KI-4	I	Key scan signal input. Ref. Table 1
92	VOL-A	I	Volume control pulse input from Volume switch
93	VOL-B	I	Volume control pulse input from Volume switch
94	TEST/VPP	—	Connect to Ground
95	KO-1	O	Key scan signal output. Ref. Table 1
96	KO-2	O	Key scan signal output. Ref. Table 1
97	KO-3	O	Key scan signal output. Ref. Table 1
98	KO-4	O	Key scan signal output. Ref. Table 1
99	KO-5	O	Key scan signal output. Ref. Table 1
100	KO-6	O	Key scan signal output. Ref. Table 1

Table 1. Key Matrix Table

PIN NO	KO 1 (PIN95)	KO 2(PIN96)	KO 3 (PIN97)	KO 4 (PIN98)	KO 5 (PIN99)	KO 6 (PIN100)
KI 0 (PIN19)	-	-	-	-	-	Power
KI 1 (PIN88)	AUDIO	RADIO	M1	M2	MAN	-
KI 2 (PIN89)	A-DOWN	CASSETE	M3	M4	T-DOWN	-
KI 3 (PIN90)	A-UP	RDS	M5	M6	T-UP	-
KI 4 (PIN91)	TA	-	-	-	-	-

Table 2. Area setting Table

AREA	AREA A (PIN65)	AREA B (PIN64)
US	H	L
EU	H	H

■ ELECTRICAL PARTS LIST

Main PWB Section (B1)

Note: Several different parts of the same reference number are alternative parts. One of those parts is used in the set.

REF No.	PART No.	DESCRIPTION
C 1	166-1801-00	18pF
C 2	166-1011-00	100pF
C 3	168-1032-05	0.011μF
C 4	168-4732-78	0.047μF
C 5	168-4732-78	0.047μF
C 6	183-1053-63	50V1μF
C 7	168-1042-05	0.1μF
C 8	168-1022-05	1000pF
C 9	168-6822-05	6800pF
C 10	168-1832-05	0.018μF
C 11	168-1832-05	0.018μF
C 12	168-1522-05	1500pF
C 13	168-3332-78	0.033μF
C 14	168-2232-05	0.022μF
C 15	168-1032-05	0.01μF
C 80	168-1032-05	0.01μF
C 101	168-2232-05	0.022μF
C 102	168-2232-05	0.022μF
C 103	168-3322-05	3300pF
C 105	183-2253-63	50V2.2μF
C 106	168-3312-05	330pF
C 107	168-5612-05	560pF
C 108	166-4701-00	47pF
C 109	166-8201-00	82pF
C 111	168-1041-05	0.1μF
C 113	183-4763-13	6.3V47μF
C 116	168-1032-05	0.01μF
C 123	168-8222-05	8200pF
C 124	168-1222-05	1200pF
C 125	168-1042-05	0.1μF
C 129	183-1053-63	50V1μF
C 131	166-1011-00	100pF
C 133	166-1011-00	100pF
C 134	166-1011-00	100pF
C 135	166-1011-00	100pF
C 136	183-4763-13	6.3V47μF
C 137	166-1501-00	15pF
C 140	166-1801-00	18pF
C 141	168-5632-78	0.056μF
C 142	168-8232-78	0.082μF
C 143	168-5632-78	0.056μF
C 144	168-4732-78	0.047μF
C 145	168-1032-05	0.01μF
C 146	168-1032-05	0.01μF
C 180	166-1011-00	100pF
C 181	168-1022-05	1000pF
C 191	168-1022-05	1000pF
C 192	168-1022-05	1000pF
C 211	183-3363-23	10V33μF
C 212	168-4732-78	0.047μF
C 213	168-4732-78	0.047μF
C 214	166-6811-00	680pF
C 215	183-1053-63	50V1μF
C 216	183-1053-63	50V1μF

REF No.	PART No.	DESCRIPTION
C 217	166-6811-00	680pF
C 218	183-1063-33	16V10μF
C 219	183-1063-33	16V10μF
C 220	183-1063-33	16V10μF
C 221	183-1063-33	16V10μF
C 222	183-1056-63	50V1μF
C 223	183-1056-33	50V1μF
C 224	168-3332-78	0.033μF
C 225	168-3332-78	0.033μF
C 226	168-3312-05	330pF
C 227	168-1032-05	0.01μF
C 228	168-1032-05	0.01μF
C 229	168-3312-05	330pF
C 230	183-1063-33	16V10μF
C 231	183-1063-33	16V10μF
C 232	168-1042-05	0.1μF
C 233	183-1043-63	50V0.1μF
C 234	183-1043-63	50V0.1μF
C 235	183-1043-63	50V0.1μF
C 236	183-1043-63	50V0.1μF
C 237	183-1053-63	50V1μF
C 238	183-1053-63	50V1μF
C 239	168-1032-05	0.01μF
C 250	183-2253-63	50V2.2μF
C 251	183-2253-63	50V2.2μF
C 302	183-4763-33	16V47μF
C 303	168-1022-05	1000pF
C 304	168-1022-05	1000pF
C 305	168-1022-05	1000pF
C 306	168-1022-05	1000pF
C 307	178-4742-78	0.47μF
C 308	172-1041-11	0.1μF
C 309	184-3383-32	16V3300μF
C 310	183-2263-13	6.3V22μF
C 501	168-1042-05	0.1μF
C 502	178-2242-78	0.22μF
C 505	168-1032-05	0.01μF
C 507	183-1073-13	6.3V100μF
C 510	168-1032-05	0.01μF
C 511	168-3922-05	3900pF
C 513	183-1073-23	10V100μF
C 514	183-2273-23	10V220μF
C 517	168-1032-05	0.01μF
C 518	042-0171-00	16V-47μF-TAN
C 519	172-1031-11	0.01μF
C 520	183-4753-53	35V4.7μF
C 521	184-4763-53	35V47μF
C 530	168-1032-05	0.01μF
C 550	168-1042-05	0.1μF
C 551	168-1042-05	0.1μF
C 701	183-1073-13	6.3V100μF
C 702	168-2732-05	0.027μF
C 703	168-2732-05	0.027μF
C 704	183-4763-33	16V47μF

REF No.	PART No.	DESCRIPTION
C 705	183-1073-13	6.3V100μF
C 706	183-4743-63	50V0.47μF
C 707	183-4743-63	50V0.47μF
C 708	168-1022-05	1000pF
C 709	168-1022-05	1000pF
C 801	168-6832-78	0.068μF
C 802	183-2263-13	6.3V22μF
C 803	168-6832-78	0.068μF
C 804	183-1073-13	6.3V100μF
C 805	166-1501-00	15pF
C 806	166-1501-00	15pF
C 807	178-2242-78	0.22μF
C 808	168-1032-05	0.01μF
C 810	166-1011-00	100pF
C 811	168-1532-05	0.015μF
C 812	168-1042-05	0.1μF
C 813	178-2242-78	0.22μF
C 820	168-1022-05	1000pF
C 821	168-2212-05	220pF
C 822	168-1022-05	1000pF
CCT 801	050-0140-54	1KΩ×4
CCT 802	050-0140-54	1KΩ×4
CCT 803	050-0140-54	1KΩ×4
CCT 804	050-0140-54	1KΩ×4
CCT 805	050-0140-54	1KΩ×4
CCT 806	050-0140-54	1KΩ×4
CCT 807	050-0140-54	1KΩ×4
CCT 808	050-0140-54	1KΩ×4
CCT 809	050-0140-54	1KΩ×4
CCT 810	050-0140-54	1KΩ×4
CCT 811	050-0140-54	1KΩ×4
CCT 812	050-0140-54	1KΩ×4
CCT 813	050-0140-54	1KΩ×4
CCT 814	050-0140-54	1KΩ×4
CCT 815	050-0140-54	1KΩ×4
CCT 816	050-0140-54	1KΩ×4
CCT 817	050-0140-54	1KΩ×4
CCT 818	050-0140-54	1KΩ×4
CCT 819	050-0140-54	1KΩ×4
D 101	001-0330-00	1SS119
D 102	001-0330-00	1SS119
D 301	001-0330-00	1SS119
D 501	001-0330-00	1SS119
D 502	001-0330-00	1SS119
D 503	001-0376-46	MTZJ9.1A
D 506	001-0421-31	MTZJ18
D 508	001-0330-00	1SS119
D 509	001-0376-47	MTZJ9.1B
D 512	001-0330-00	1SS119
D 513	001-0466-00	S5688B
D 514	001-0466-00	S5688B
D 550	001-0516-00	MA111
D 551	001-0516-00	MA111
D 552	001-0516-00	MA111

REF No.	PART No.	DESCRIPTION
D 553	001-0516-00	MA111
D 801	001-0330-00	1SS119
D 901	001-0330-00	1SS119
D 902	001-0330-00	1SS119
IC 101	051-0350-55	NJM4558M
IC 102	051-1819-00	SAA6579T/VI
IC 103	051-6201-00	LC72146M-TLM
IC 201	051-5012-00	LC75386NE-R
IC 301	051-2014-00	TDA7384A
IC 501	051-1556-08	S-80740AN-D4-X
IC 701	051-0301-01	UPC1228HA
IC 801	052-3917-00	μPD784215AGF-115-7EU
IC 802	051-5413-08	S-8052HNM-CR-T1
J 1	076-0540-18	18P
L 1	010-2330-67	5.6μH
L 102	010-2046-44	1mH
L 104	010-2330-86	220μH
Q 101	125-0003-02	RN2202
Q 102	103-1504-00	2SD1504
Q 104	125-2003-02	RN1202
Q 105	100-1150-00	2SA1150
Q 106	100-1048-00	2SA1048
Q 107	108-0669-00	2SK669
Q 301	102-2712-00	2SC2712
Q 302	125-2004-02	RN1402
Q 303	103-1306-00	2SD1306
Q 304	103-1306-00	2SD1306
Q 501	102-2712-00	2SC2712
Q 507	100-1150-00	2SA1150
Q 511	100-1297-00	2SA1297
Q 513	103-1858-00	2SD1858
Q 514	103-1858-00	2SD1858
Q 515	103-1858-00	2SD1858
Q 516	100-1297-00	2SA1297
Q 517	125-2003-02	RN1202
Q 527	100-0885-00	2SA885
Q 530	102-2458-00	2SC2458
Q 590	051-1834-00	LM2936Z
Q 700	101-1240-00	2SB1240
Q 701	125-2003-03	RN1203
Q 801	102-2712-00	2SC2712
Q 901	125-2003-06	N1206
Q 903	100-1162-00	2SA1162
R 1	111-3311-91	1/4WS 330Ω
R 2	119-8221-10	1/16W 8.2KΩ
R 3	119-1231-10	1/16W 12KΩ
R 4	119-1021-10	1/16W 1KΩ
R 5	119-1031-10	1/16W 10KΩ
R 6	119-2241-10	1/16W 220KΩ
R 7	119-1031-10	1/16W 10KΩ
R 8	119-6821-10	1/16W 6.8KΩ
R 9	119-5631-10	1/16W 56KΩ

REF No.	PART No.	DESCRIPTION
R 11	119-1021-10	1/16W 1KΩ
R 14	119-1031-10	1/16W 10KΩ
R 15	119-1231-10	1/16W 12KΩ
R 102	119-1231-10	1/16W 12KΩ
R 103	119-1031-10	1/16W 10KΩ
R 104	119-1821-10	1/16W 1.8KΩ
R 105	119-3331-10	1/16W 33KΩ
R 106	119-1521-10	1/16W 1.5KΩ
R 107	119-1521-10	1/16W 1.5KΩ
R 108	119-2221-10	1/16W 2.2KΩ
R 111	119-1041-10	1/16W 100KΩ
R 113	119-2211-10	1/16W 220Ω
R 117	119-1031-10	1/16W 10KΩ
R 118	119-2221-10	1/16W 2.2KΩ
R 120	119-1031-10	1/16W 10KΩ
R 121	119-2221-10	1/16W 2.2KΩ
R 122	119-1231-10	1/16W 12KΩ
R 124	119-2221-10	1/16W 2.2KΩ
R 125	119-2711-10	1/16W 270Ω
R 126	119-1021-10	1/16W 1KΩ
R 129	119-1031-10	1/16W 10KΩ
R 130	119-2231-10	1/16W 22KΩ
R 131	119-2231-10	1/16W 22KΩ
R 132	119-4731-10	1/16W 47KΩ
R 133	119-4731-10	1/16W 47KΩ
R 207	119-4721-10	1/16W 4.7KΩ
R 208	119-3331-10	1/16W 33KΩ
R 209	119-3331-10	1/16W 33KΩ
R 210	119-4721-10	1/16W 4.7KΩ
R 211	119-1541-10	1/16W 150KΩ
R 212	119-1021-10	1/16W 1KΩ
R 213	119-1021-10	1/16W 1KΩ
R 214	119-1021-10	1/16W 1KΩ
R 215	119-1021-10	1/16W 1KΩ
R 216	119-1031-10	1/16W 10KΩ
R 217	119-3311-10	1/16W 330Ω
R 218	119-3311-10	1/16W 330Ω
R 219	119-1031-10	1/16W 10KΩ
R 220	119-4721-10	1/16W 4.7KΩ
R 221	119-4721-10	1/16W 4.7KΩ
R 301	119-1031-10	1/16W 10KΩ
R 302	119-1051-10	1/16W 1MΩ
R 303	119-1031-10	1/16W 10KΩ
R 501	119-5631-10	1/16W 56KΩ
R 503	032-0092-92	1/16W 220KΩ±1%
R 504	119-1831-10	1/16W 18KΩ
R 505	119-2731-10	1/16W 27KΩ
R 506	032-0092-36	1/16W 470KΩ±1%
R 507	111-1021-91	1/4WS 1KΩ
R 510	119-2231-10	1/16W 22KΩ
R 513	119-4741-10	1/16W 470KΩ
R 515	119-1031-10	1/16W 10KΩ
R 516	119-2741-10	1/16W 270KΩ

REF No.	PART No.	DESCRIPTION
R 518	111-1521-91	1/4WS 1.5KΩ
R 519	119-1031-10	1/16W 10KΩ
R 520	111-1091-91	1/4WS 1Ω
R 521	111-1091-91	1/4WS 1Ω
R 522	111-1091-91	1/4WS 1Ω
R 523	111-2211-81	1/2WS 220Ω
R 526	111-1521-91	1/4WS 1.5KΩ
R 528	119-1031-10	1/16W 10KΩ
R 530	119-2231-10	1/16W 22KΩ
R 531	119-2231-10	1/16W 22KΩ
R 541	111-1001-81	1/2WS 10Ω
R 543	111-4701-91	1/4WS 47Ω
R 551	119-2221-10	1/16W 2.2KΩ
R 552	119-1221-10	1/16W 1.2KΩ
R 553	119-8211-10	1/16W 820Ω
R 554	119-3311-10	1/16W 330Ω
R 556	119-3311-10	1/16W 330Ω
R 557	119-3321-10	1/16W 3.3KΩ
R 558	119-3321-10	1/16W 3.3KΩ
R 559	119-3311-10	1/16W 330Ω
R 560	119-3311-10	1/16W 330Ω
R 701	119-6801-10	1/16W 68Ω
R 702	119-4721-10	1/16W 4.7KΩ
R 703	119-1241-10	1/16W 120KΩ
R 704	119-4721-10	1/16W 4.7KΩ
R 705	119-1241-10	1/16W 120KΩ
R 706	119-6801-10	1/16W 68Ω
R 707	119-2231-10	1/16W 22Ω
R 708	119-2231-10	1/16W 22KΩ
R 709	111-1031-91	1/4WS 10KΩ
R 710	111-8211-81	1/2WS 820Ω
R 711	119-2201-10	1/16W 22Ω
R 801	119-1031-10	1/16W 10KΩ
R 802	119-1031-10	1/16W 10KΩ
R 803	119-1031-10	1/16W 10KΩ
R 804	119-1031-10	1/16W 10KΩ
R 805	119-4721-10	1/16W 4.7KΩ
R 806	119-4721-10	1/16W 4.7KΩ
R 815	119-1031-10	1/16W 10KΩ
R 819	119-4721-10	1/16W 4.7KΩ
R 820	119-1031-10	1/16W 10KΩ
R 823	119-0000-00	1/16W 0Ω
R 824	119-0000-00	1/16W 0Ω (PU-1680-Y-A ONLY)
R 825	119-0000-00	1/16W 0Ω (PU-1681Y-A ONLY)
R 826	119-2241-10	1/16W 220KΩ
R 827	119-1031-10	1/16W 10KΩ
R 828	119-1031-10	1/16W 10KΩ
R 841	119-4721-10	1/16W 4.7KΩ
R 842	119-2241-10	1/16W 220KΩ
R 850	119-2231-10	1/16W 22KΩ
R 851	119-2231-10	1/16W 22KΩ

REF No.	PART No.	DESCRIPTION
R 860	119-1031-10	1/16W 10KΩ
R 861	119-5631-10	1/16W 56KΩ
R 881	119-0000-00	1/16W 0Ω
R 882	119-0000-00	1/16W 0Ω
R 883	119-0000-00	1/16W 0Ω

REF No.	PART No.	DESCRIPTION
R 901	111-8211-91	1/4WS 820Ω
R 902	119-3321-10	1/16W 3.3KΩ
R 903	119-1031-10	1/16W 10KΩ
R 904	119-1031-10	1/16W 10KΩ
SUP	060-0122-10	DSP-201M

REF No.	PART No.	DESCRIPTION
X 100	061-3013-00	4.332MHZ
X 101	061-1066-00	7.2MHZ
X 801	061-1081-50	12MHZ

Connector PWB Section (B2)

REF No.	PART No.	DESCRIPTION
C 2	183-1063-33	16V10μF
B 101	076-0324-10	10P
B 102	076-0324-04	4P

REF No.	PART No.	DESCRIPTION
B 103	076-0324-14	14P
D 1	001-0334-30	RL202
T 1	009-9006-60	CHOKE

REF No.	PART No.	DESCRIPTION
J 101	074-1155-00	OUTLET SOCKET

Switch PWB Section (B3)

REF No.	PART No.	DESCRIPTION
C 101	160-1012-05	100pF
C 102	160-1012-05	100pF
CN 101	074-1151-18	18P
PL 101	017-0410-00	14V 40mA
PL 102	017-0410-00	14V 40mA
PL 103	017-0410-00	14V 40mA
S 101	013-6002-50	SKHVBC
S 102	013-6002-50	SKHVBC

REF No.	PART No.	DESCRIPTION
S 103	013-6002-50	SKHVBC
S 104	013-6002-50	SKHVBC
S 105	013-6002-50	SKHVBC
S 106	013-6002-50	SKHVBC
S 107	013-6002-50	SKHVBC
S 108	013-6002-50	SKHVBC
S 110	013-6002-50	SKHVBC
S 111	013-6002-50	SKHVBC

REF No.	PART No.	DESCRIPTION
S 112	013-6002-50	SKHVBC
S 113	013-6002-50	SKHVBC
S 114	013-6002-50	SKHVBC
S 115	013-6002-50	SKHVBC
S 116	013-6002-50	SKHVBC
S 118	013-6002-50	SKHVBC
VR 101	016-0010-12	VR W/SHAFT

Display PWB Section (B4)

REF No.	PART No.	DESCRIPTION
C 2	183-1063-33	16V10μF
C 3	178-4732-05	0.047μF
C 4	178-4732-05	0.047μF
C 5	178-1022-05	1000pF
C 6	183-1073-23	10V100μF
D 1	001-0376-48	MTZJ9.1C
D 4	001-0376-33	MTZJ5.6C
D 5	001-0330-00	1SS119

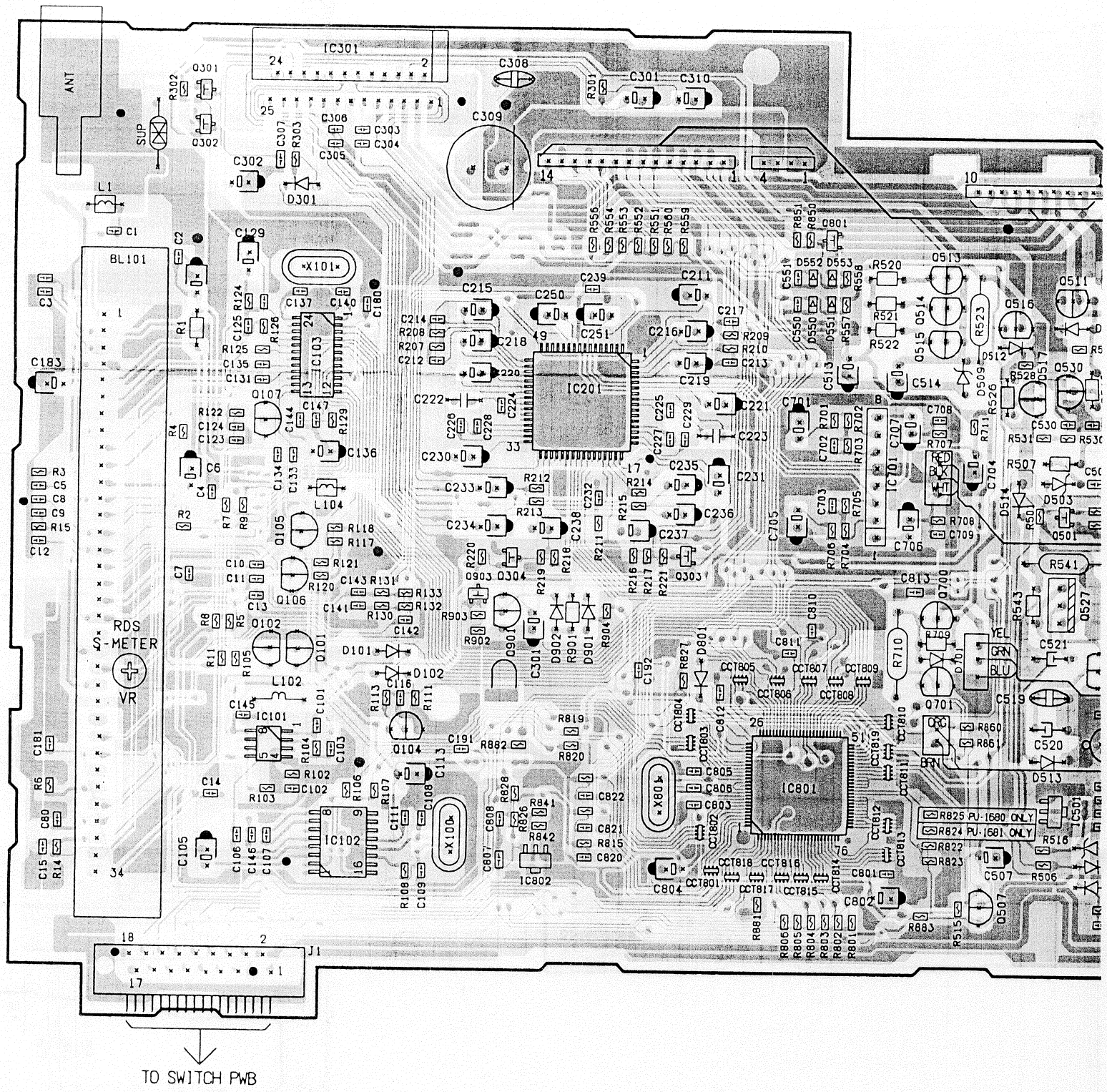
REF No.	PART No.	DESCRIPTION
IC 1	051-6022-00	LC75824W
LCD 1	379-1155-40	
PL 1	017-0410-00	14V 40mA
PL 2	017-0410-00	14V 40mA
Q 1	103-1858-00	2SD1858
Q 2	103-1858-00	2SD1858
Q 3	103-1858-00	2SD1858
R 1	111-4711-91	1/4WS 470Ω

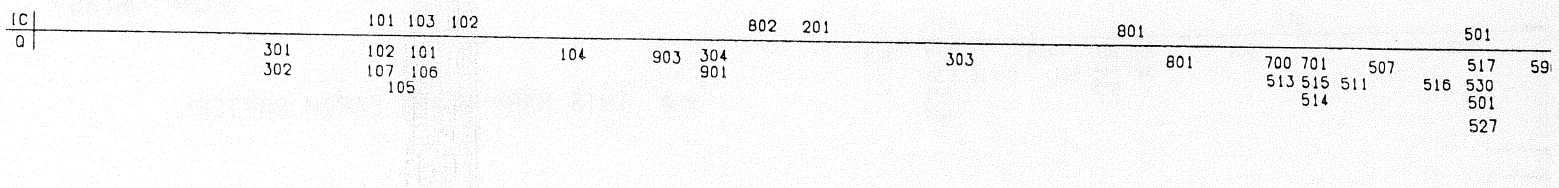
REF No.	PART No.	DESCRIPTION
R 2	111-4711-91	1/4WS 2.2Ω
R 3	111-4711-91	1/4WS 2.2Ω
R 4	111-4711-91	1/4WS 220Ω
R 6	119-1031-10	1/16W 10KΩ
R 7	119-1031-10	1/16W 10KΩ
R 8	119-1021-10	1/16W 1KΩ
R 9	119-1021-10	1/16W 1KΩ
R 10	119-1021-10	1/16W 1KΩ

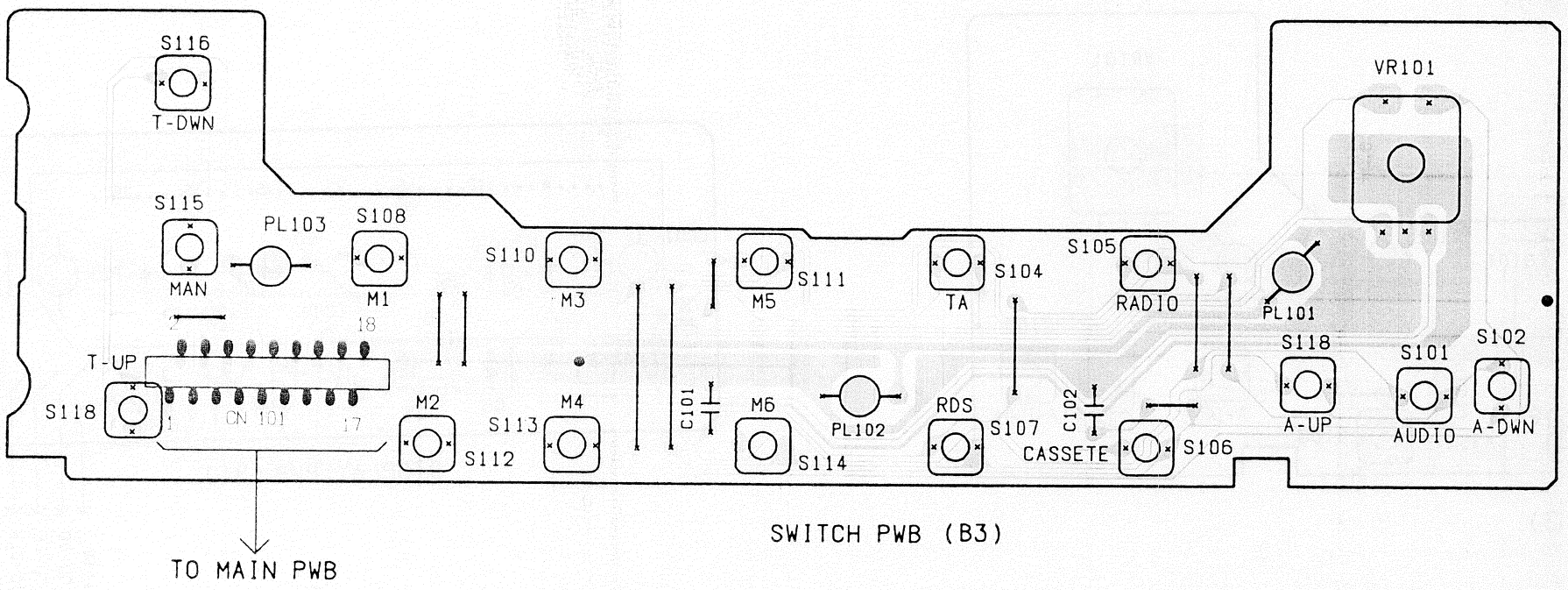
PRINTED WIRING BOARD

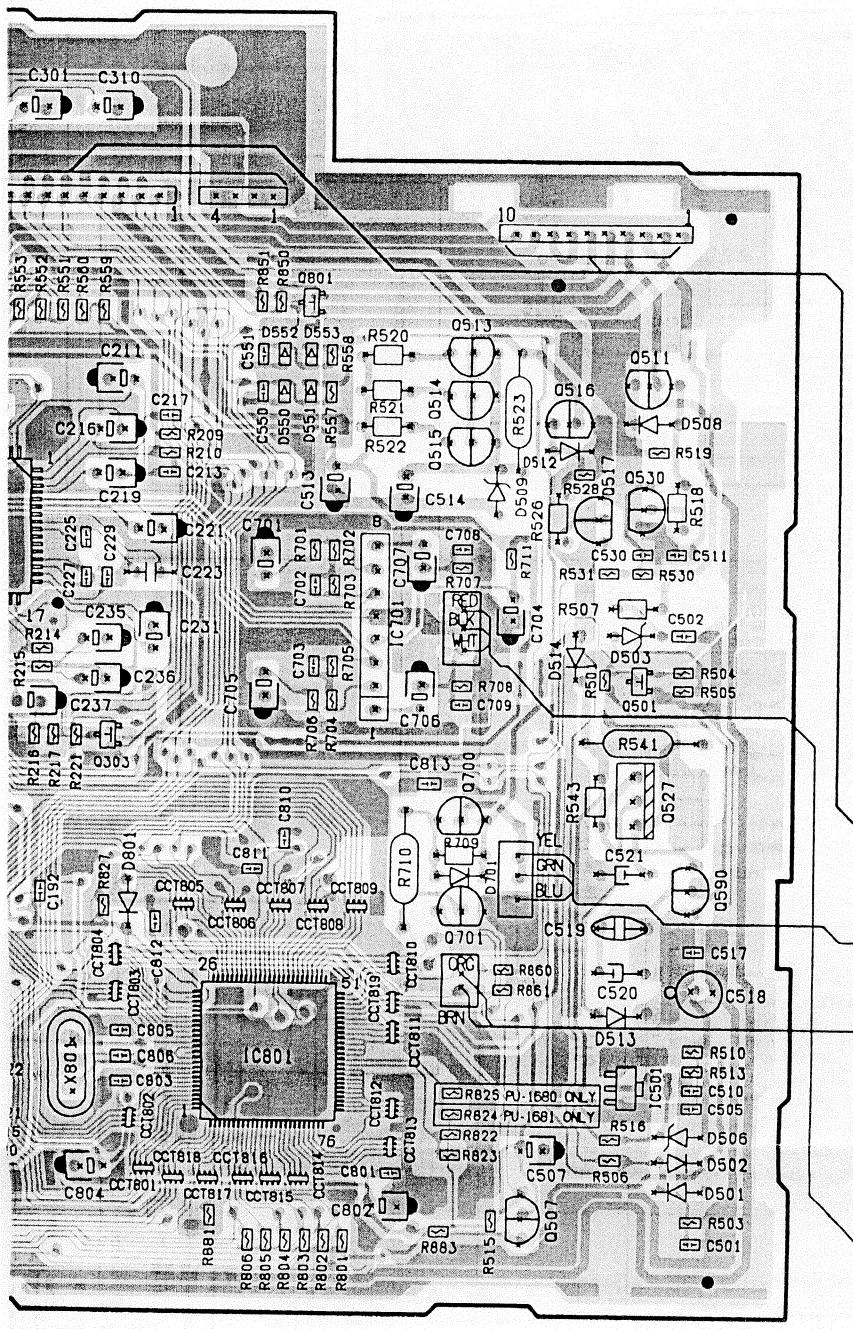
Main PWB (B1) / Connector PWB (B2) / Mecha PWB (B5) / Switch PWB (B3) / Display PWB (B4) Section

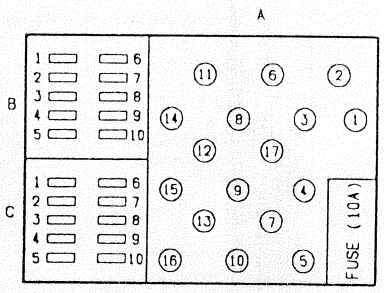
MAIN PWB (B1)











A

NO.	DESCRIPTION
1	FL+
2	FR+
3	RL+
4	N.C
5	ACC
6	RR+
7	N.C
8	FL-
9	BACK-UP
10	N.C
11	FR-
12	RL-
13	N.C
14	RR-
15	GND
16	DISPLAY+12V
17	N.C

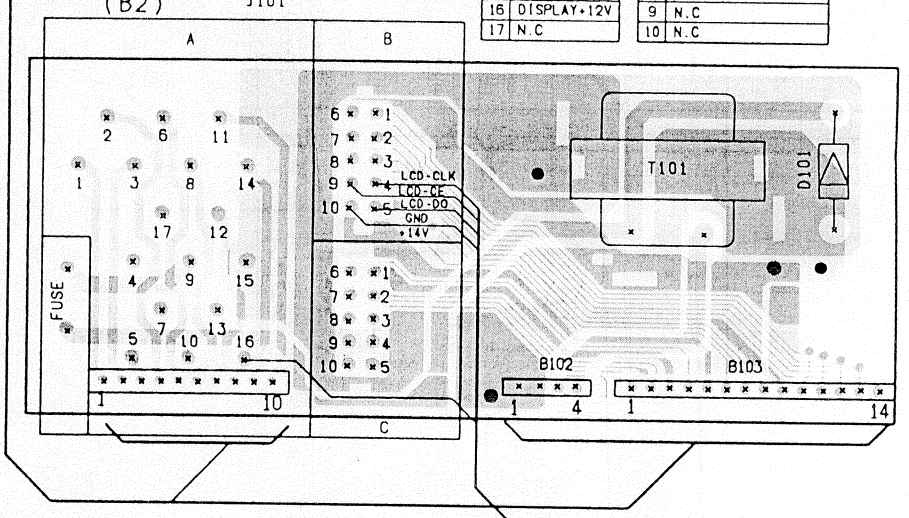
B

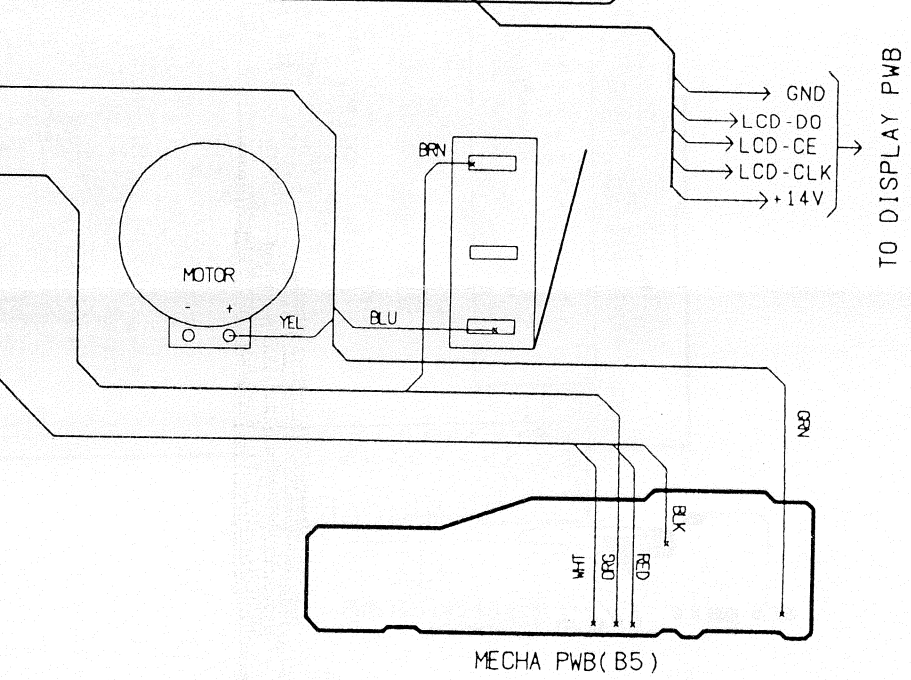
NO.	DESCRIPTION
1	REMOTE-5(MUTE)
2	REMOTE-3(SEEK-UP)
3	REMOTE-2(VOL-DN)
4	CLOCK
5	DATA
6	REMOTE-6(GND)
7	REMOTE-4(SEEK-DN)
8	REMOTE-1(VOL-UP)
9	CHIP-SELECT
10	GND

C

NO.	DESCRIPTION
1	SIG-GND
2	MUTE
3	N.C
4	N.C
5	N.C
6	LINE-OUT 1
7	LINE-OUT 2
8	N.C
9	N.C
10	N.C

CONNECTOR PWB
(B2)

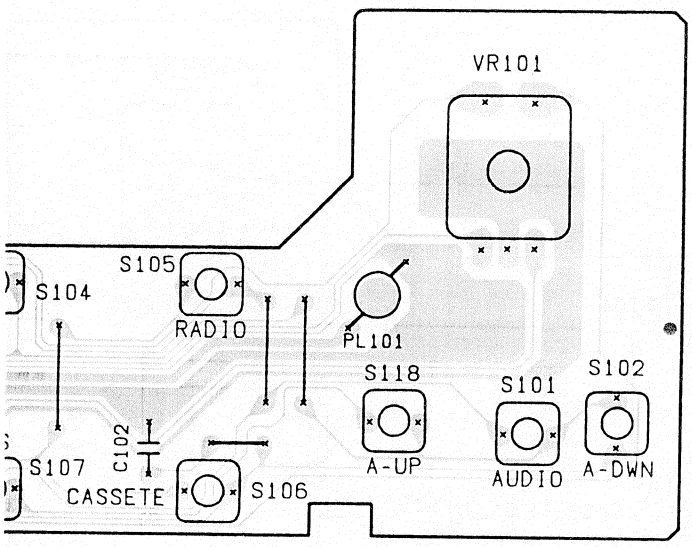




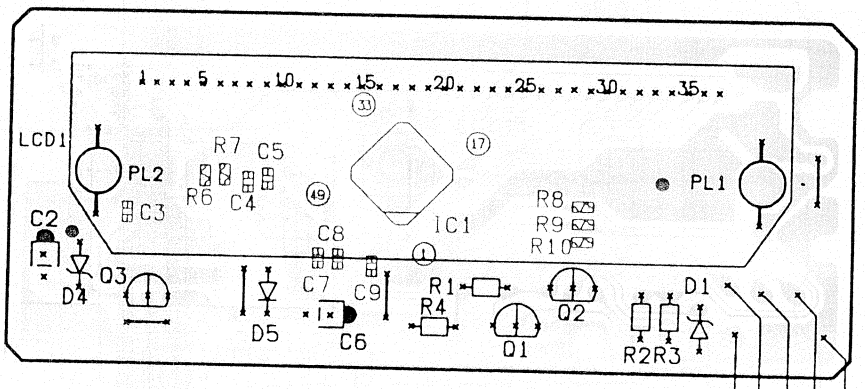
MECHA PWB(B5)

801
303 801 700 701 507 501 517 590
513 515 511 516 530
514 501
527

●● THIS MARK MEANS EARTH PATTERN



3)

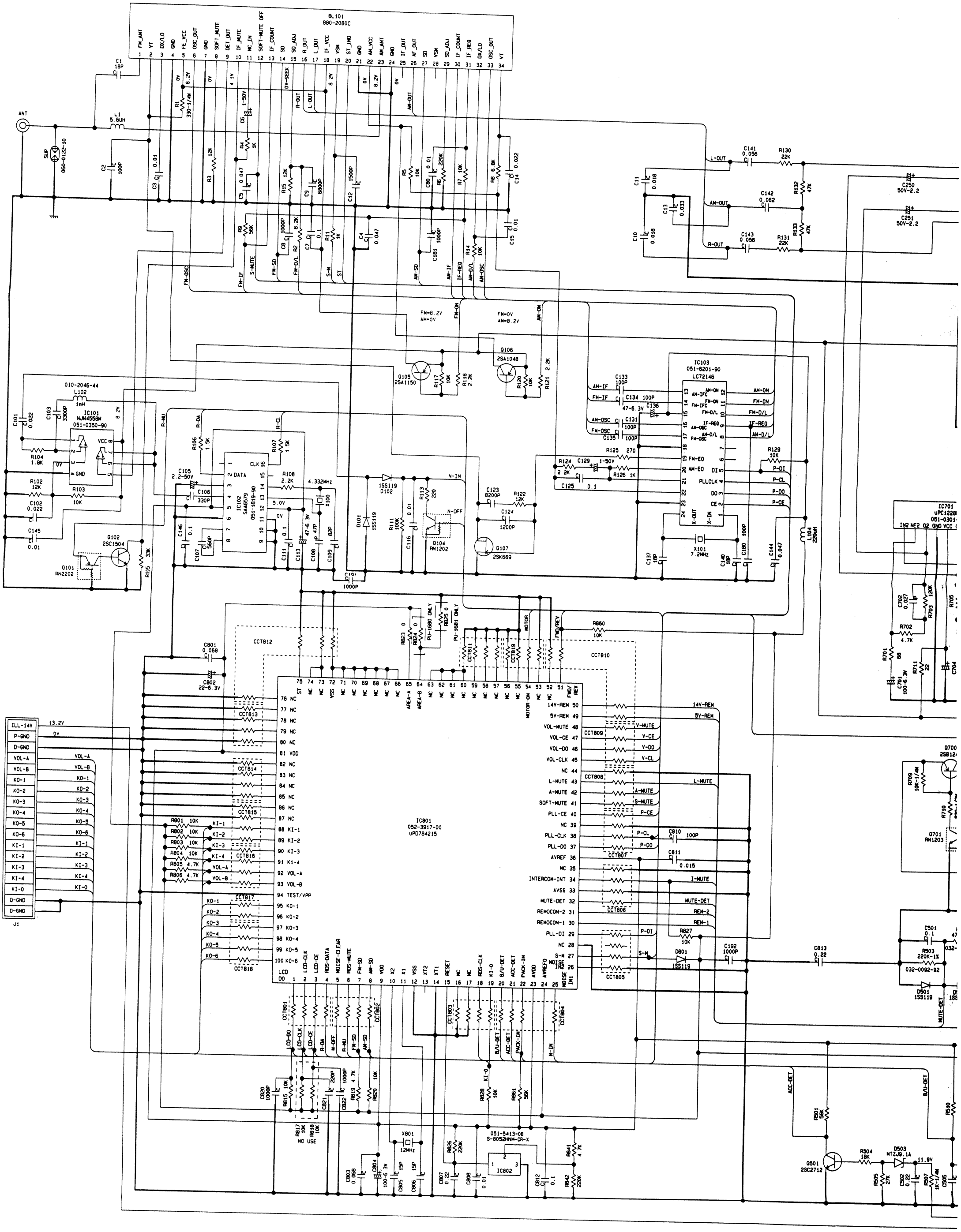


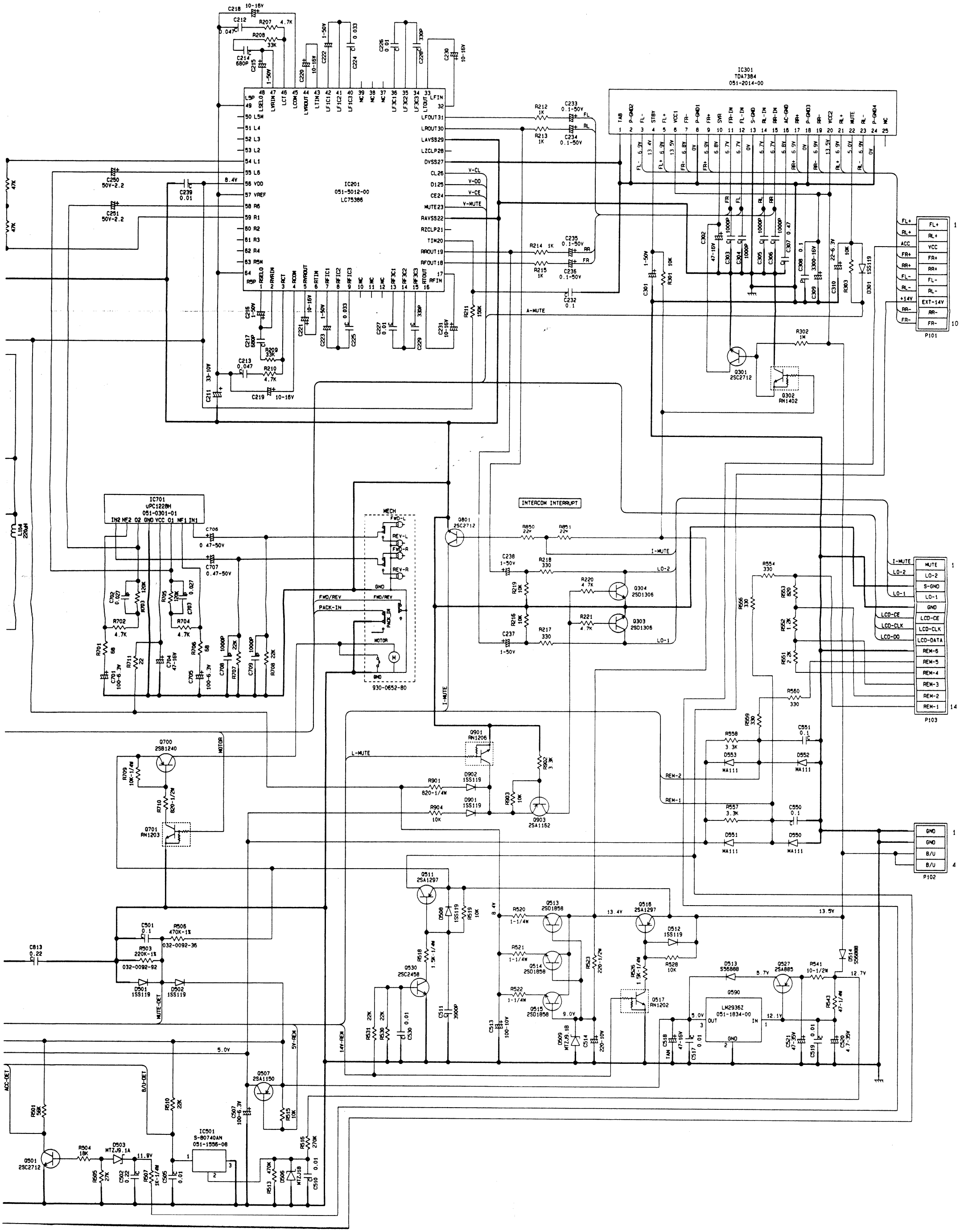
DISPLAY PWB (B4)

TO CONNECTOR PWB

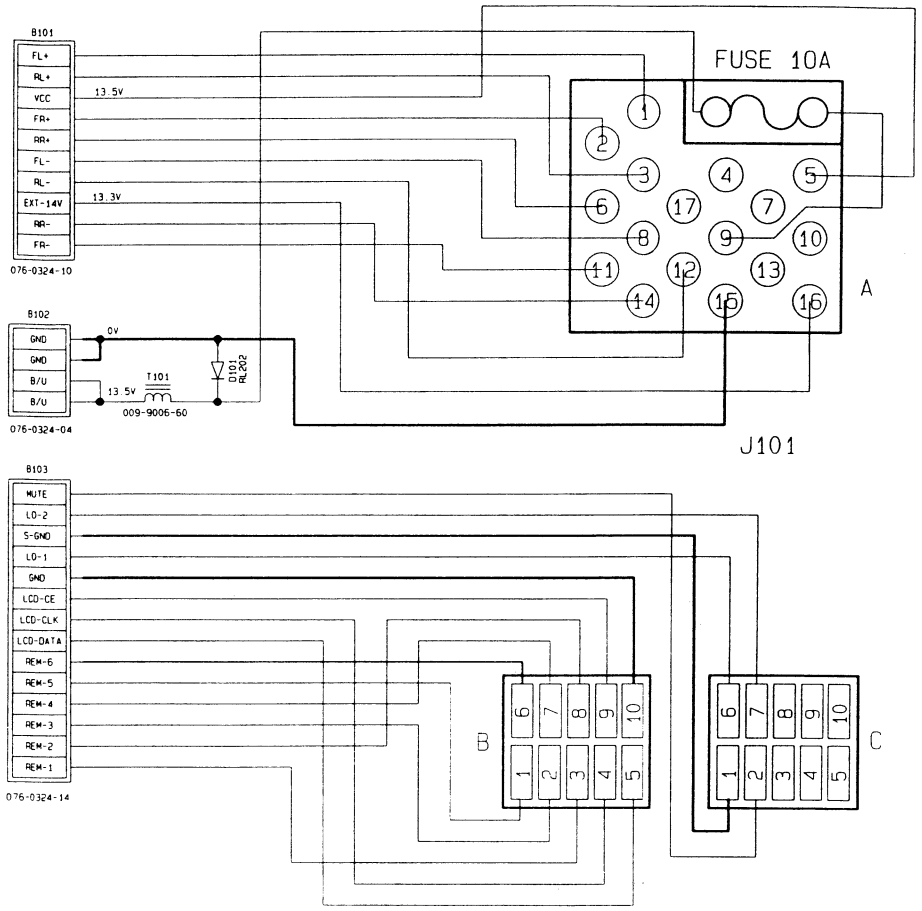
■ CIRCUIT DIAGRAM

Main PWB (B1) Section




IC201
051-5012-00
LC75366
IC301
TDA7384
051-2014-00
IC701
uPC1228H
051-0301-01
IC501
S-80740AN
051-1556-08
LM2936Z
051-1834-00
MECH
930-0652-80
INTERCOM INTERRUPT
A-MUTE
I-MUTE
L-MUTE
MOTOR
FWD/REV
PACK-IN
MUTE-DET
ACC-DET
B/U-DET
5V-REM
14V-REM
REM-1
REM-2
V-CL
V-DO
V-CE
V-MUTE
LCD-CE
LCD-CLK
LCD-DO
LCD-DATA
P101
P102
P103
Q301 2SC2712
Q302 RN1402
Q303 2SD1306
Q304 2SD1306
Q501 2SC2712
Q507 2SA1150
Q511 2SA1297
Q513 2SD1858
Q514 2SD1858
Q515 2SD1858
Q516 2SA1297
Q517 RN1202
Q527 2SA885
Q530 2SC2458
Q700 2SB1240
Q701 RN1203
Q801 2SC2712
Q901 RN1206
Q903 2SA1162

Connector PWB (B2)Section



17 PIN CONFIGURATION (A)

PIN NO.	DESCRIPTION
1	FL +
2	FR +
3	RL +
4	N.C
5	POWER SWITCHED. ACC
6	RR +
7	N.C
8	FL -
9	POWER. B/U
10	N.C
11	FR -
12	RL -
13	N.C
14	RR -
15	GND
16	EXTENAL DISPLAY POWER
17	N.C

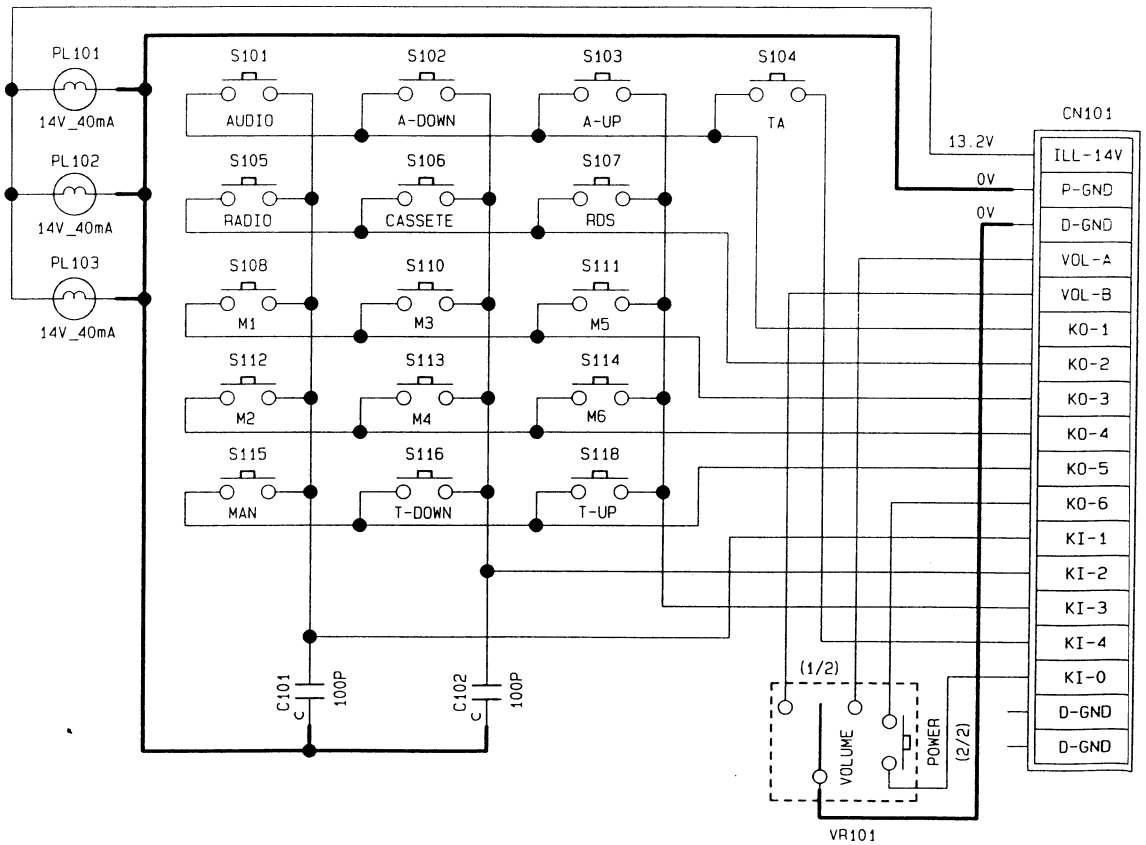
10 PIN CONFIGURATION (B)

PIN NO.	DESCRIPTION
1	REMOTE CONROL 5 (MUTE)
2	REMOTE CONTROL 3 (SEEK UP)
3	REMOTE CONTROL 2 (VOLUME DOWN)
4	EXTERNAL DISPLAY DATA-CLK
5	EXTERNAL DISPLAY DATA
6	REMOTE CONTROL 6 (GND)
7	REMOTE CONTROL 4 (SEEK DOWN)
8	REMOTE CONTROL 1 (VOLUME UP)
9	EXTERNAL DISPLAY CHIP SELECT
10	GROUND

10 PIN CONFIGURATION (C)

PIN NO.	DESCRIPTION
1	SIGNAL GROUND
2	MUTE (INTERCOM)
3	N.C
4	N.C
5	N.C
6	LINE OUT 1
7	LINE OUT 2
8	N.C
9	N.C
10	N.C

Switch PWB (B3)Section



Display PWB (B4)Section